COMPOUND INTEREST & ANNUITIES

Directions: Solve each word problem. Label all answers and round appropriately. Show ALL work.

INTEREST COMPOUNDED PERIODICALLY	INTEREST COMPOUNDED CONTINUOUSLY	PRESENT VALUE ANNUITY	FUTURE VALUE ANNUITY
$A = P\left(1 + \dfrac{r}{n}\right)^{nt}$	$A = Pe^{rt}$	$P_n = p\left[\dfrac{1 - \left(1 + \frac{r}{n}\right)^{-nt}}{\left(\frac{r}{n}\right)}\right]$	$F_n = p\left[\dfrac{\left(1 + \frac{r}{n}\right)^{nt} - 1}{\left(\frac{r}{n}\right)}\right]$

SCENARIO #1 You are planning to invest $250 a month into an IRA that has an APR of 3.7%

1.)   How much did you invest after 30 years?

1.)   _____

2.)   How much is your account worth after 30 years?

2.)   _____

3.)   How much interest did you earn after 30 years?

3.)   _____

SCENARIO #2 You invest $2,500 into a bank account that has an APR of 4.3% compounded continuously.

4.)   How much is the account worth after 15 years?

4.)   _____

5.)   How much interest did you earn in 15 years?

5.)   _____

SCENARIO #3 You purchase a car for $28,000. You pay 15% as a down payment. You intend to finance that rest of the cost and pay it off monthly over the next 4 years. The dealership offers an APR of 6.2%.

6.) How much did you pay as a down payment?   6.) _____

7.) What is your monthly payment on the financed portion of the cost?   7.) _____

8.) How much interest do you end of paying?   8.) _____

9.) How much does the car cost you total in the end?   9.) _____

SCENARIO #4 You invest $7,500 into an account that has an APR of 2.8% compounded quarterly.

10.) How much is the account worth after 10 years?   10.) _____

11.) How much interest did you earn in 10 years?   11.) _____